Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1(Currently amended). An *in vitro* process for increasing spermatozoa motility, comprising:

treating human seminal liquid comprising spermatozoa from an oligospermic, asthenospermic, teratospermic or oligoasthenospermic patient for up to two hours with an amount of a phosphatidylinositol-3 kinase (PI3K) inhibitor sufficient to increase spermatozoa motility, thereby increasing spermatozoa motility during the up to two hours of treatment; and

separating the spermatozoa by spermatozoa separation methods used in assisted reproduction techniques (ART).

Claims 2 and 3 (Cancelled)

4(Previously Presented). Process according to claim 1, wherein separating the spermatozoa is performed by a method selected from the group consisting of the wash and spin method, the sedimentation method, the direct swim-up method, the pellet and swim-up method, and the buoyant density gradient method.

5(Original). Process according to claim 4, wherein separating the spermatozoa is performed by the direct swim-up method.

Claim 6 (Cancelled).

7(Previously presented). Process according to claim 1, wherein the PI3K inhibitor is selected from the group consisting of 2-(4-morpholinyl)-8-phenyl-4H-1-benzopyran-4-one (LY294002), wortmannin, quercetin, and derivatives and analogues thereof.

8(Original). Process according to claim 7, wherein the PI3K inhibitor is LY294002.

9(Previously presented). Process according to claim 1, wherein spermatozoa are treated with an amount of PI3K inhibitor in the range of about 0.01 to 1000 μM, about 5 to 500 μM, or about 10 to 100 μM.

Claims 10 and 11 (Cancelled)

12(Previously presented). Spermatozoa obtainable by the process according to claim 1.

Claims 13-18 (Cancelled)

19(Presently presented). Method of ART therapy, comprising treating the spermatozoa of claim 12 with a phosphatidylinositol-3 kinase (PI3K) inhibitor.

20(Previously presented). Method according to claim 19, wherein ART therapy is selected from the group consisting of *in vitro* fertilization (IVF) gamete intrafallopian transfer (GIFT), and intrauterine insemination (IUI).

Claims 21-25. (Cancelled)

26(Previously presented). The method according to claim 19, wherein the PI3K inhibitor is selected from the group consisting of 2-(4-morpholinyl)-8-phenyl-4H-1-benzopyran-4-one (LY294002), wortmannin, quercetin, and derivatives and analogues thereof.

27(Previously presented). The method according to claim 26, wherein the PI3K inhibitor is LY294002.

Claims 28 and 29 (Cancelled)